

Virtual Reality For MENTAL HEALTH IMPROVEMENT

An illustration of a person wearing a VR headset and sitting on a red stool in a library. They are interacting with a large, transparent screen that displays a bookshelf. The background is a soft pink and purple gradient with floating icons like a graduation cap and musical notes.

Week 5
25/March/2022

An illustration of a person in a VR environment, reaching out to a large screen. The scene is overlaid with various educational and scientific icons: a globe, a stack of books, a compass, a graph with 'ABC' and '123' labels, a blue sphere with dots, and a graduation cap. The background is a light blue and white gradient.



Our Team

- Sayak Bose - 20IM10033
- Shah Param Tarak - 20IM10034
- Shaswat Shrivastav - 20IM10035
- Shristi Shrinet - 20IM10036
- Shubham Kumar - 20IM10037

VR for mental health care



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Week 2- Learn Unity and other 3D model softwares and mental health issues to combat

Week 3- Creating initial 3D model in unity and Virtual reality model in Google Cardboard VR

Week 4- Optimising 3D model and understanding the positive and negative impacts of VR

Week 5- Final Model Presentation

Literature review

1. Geraets, Chris N. W., Elisabeth C. D. van der Stouwe, Roos Pot-Kolder, and Wim Veling. 2021. "Advances in Immersive Virtual Reality Interventions for Mental Disorders: A New Reality?" *Current Opinion in Psychology* 41 (October): 40–45.
2. Cieślik, Błażej, Justyna Mazurek, Sebastian Rutkowski, Paweł Kiper, Andrea Turolla, and Joanna Szczepańska-Gieracha. 2020. "Virtual Reality in Psychiatric Disorders: A Systematic Review of Reviews." *Complementary Therapies in Medicine* 52 (August): 102480.
3. Freeman, D. & Reeve, Sarah & Robinson, A. & Ehlers, Anke & Clark, David & Spanlang, Bernhard & Slater, Mel. (2017). Virtual reality in the assessment, understanding, and treatment of mental health disorders. *Psychological Medicine*.47. 1-8. 10.1017/S003329171700040X.
4. <https://www.healthline.com/health/cptsd>
5. https://en.wikipedia.org/wiki/Virtual_reality_therapy

01



INTRODUCTION

Virtual Reality(VR) in Mental
Health

02

Projects

The VR models made

Nature view for change in environment

One of the most intriguing areas of current research is the impact of nature on general wellbeing. In one study in Mind, 95% of those interviewed said their mood improved after spending time outside, changing from depressed, stressed, and anxious to more calm and balanced. Other studies by Ulrich, Kim, and Cervinka show that time in nature or scenes of nature are associated with a positive mood, and psychological well being, meaningfulness, and vitality.

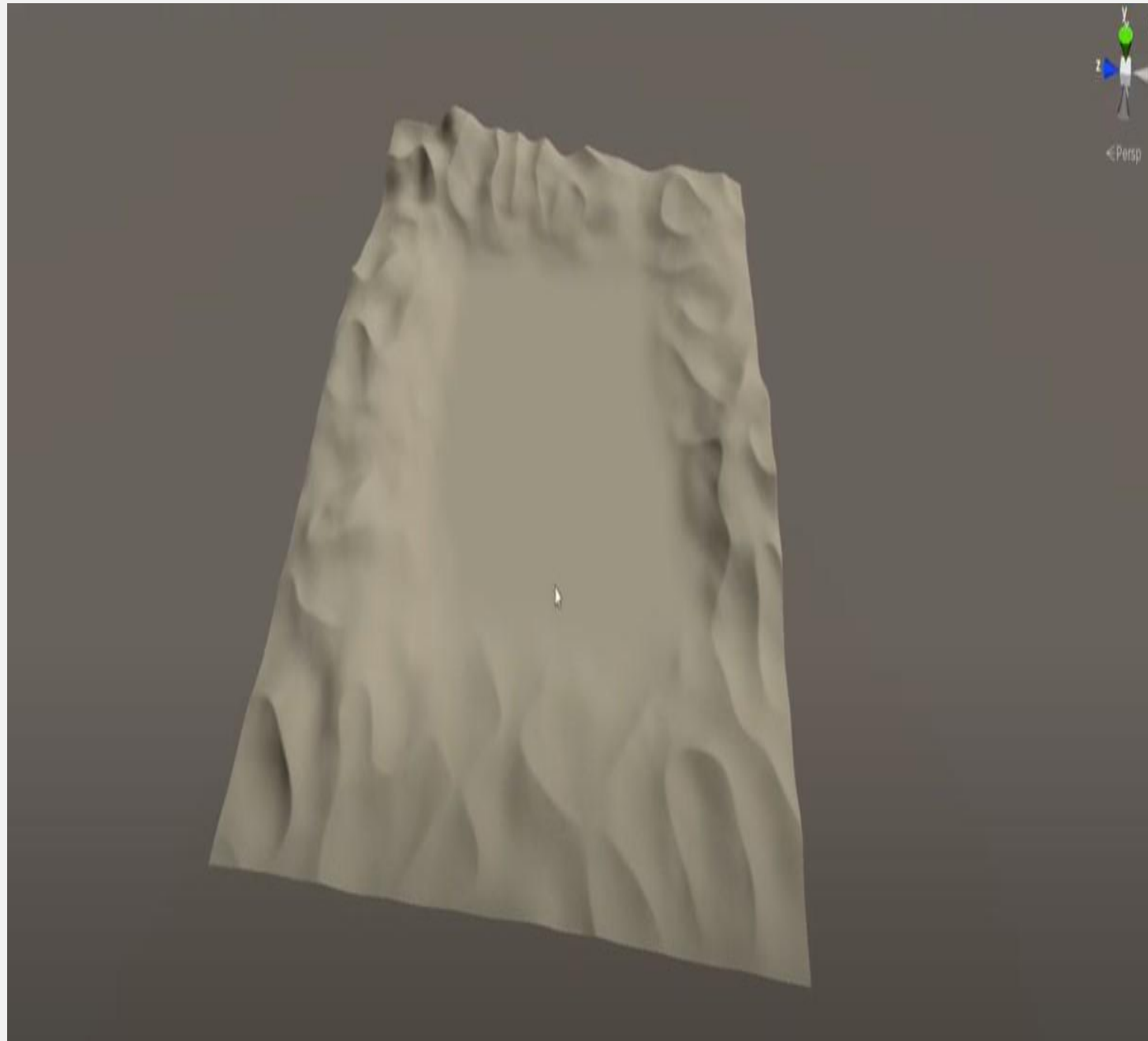
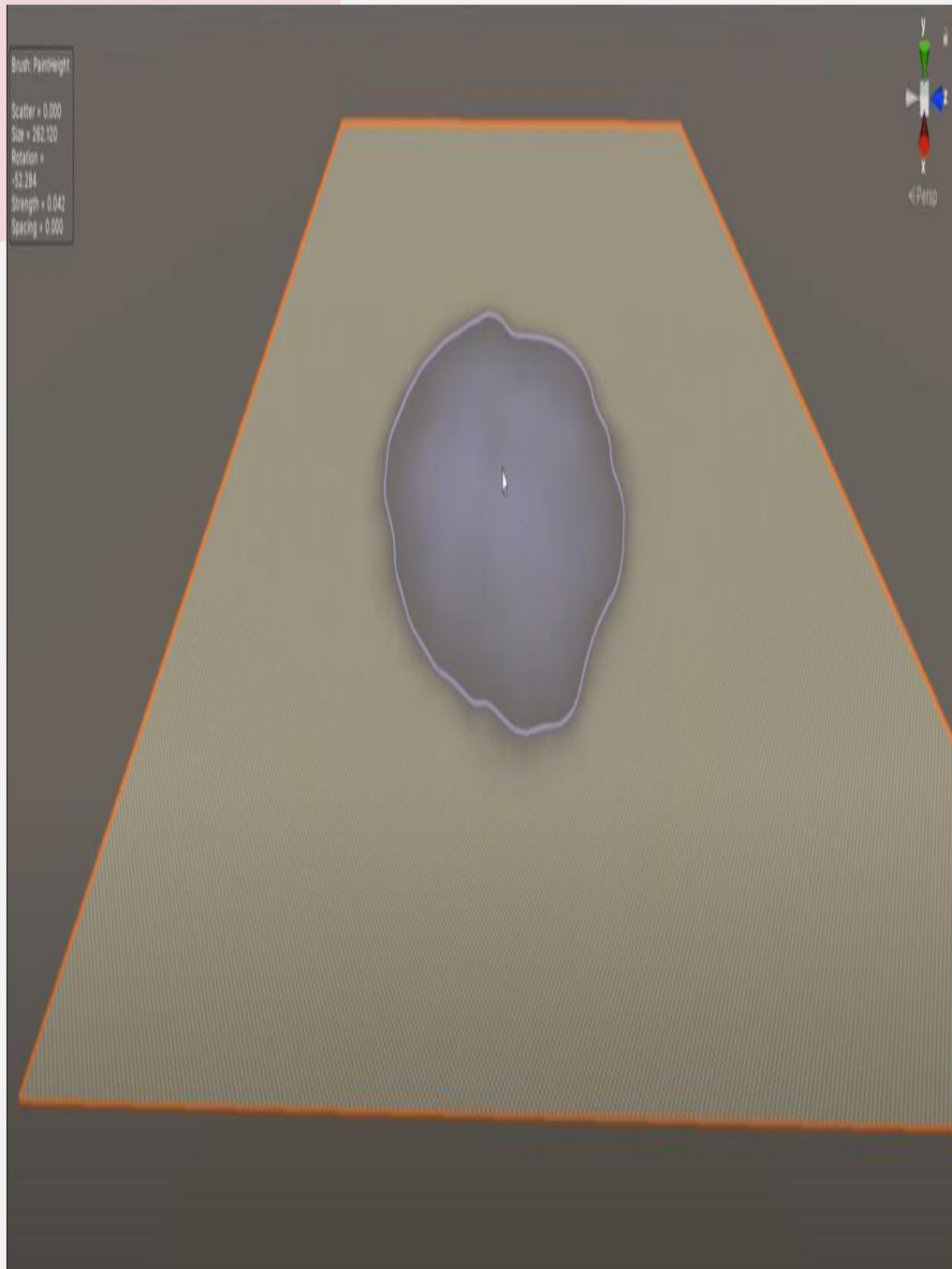
This is nicely demonstrated in a now classic study of patients who underwent gallbladder surgery; half had a view of trees and half had a view of a wall.

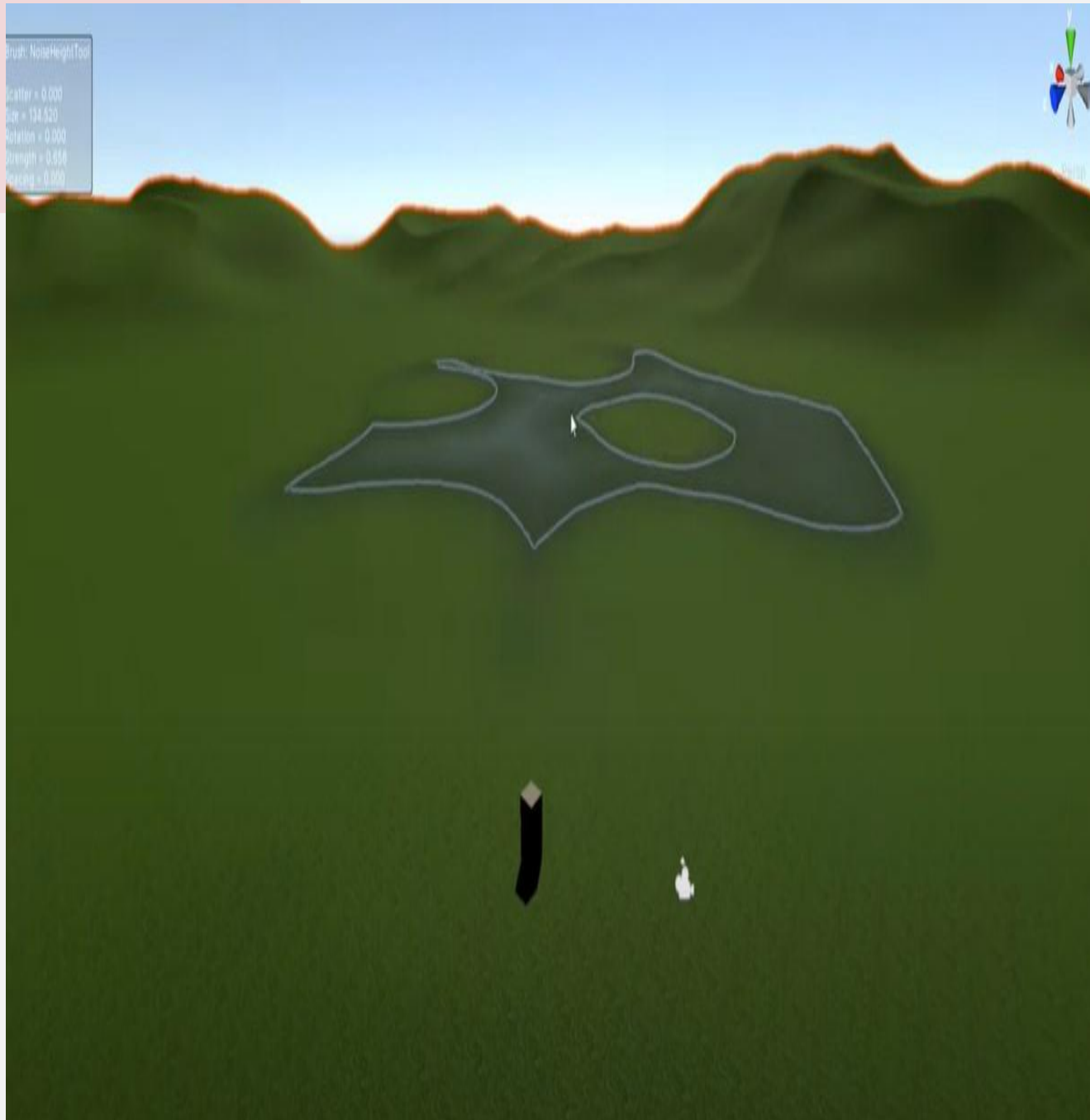
According to the physician who conducted the study, Robert Ulrich, the patients with the view of trees tolerated pain better, appeared to nurses to have fewer negative effects, and spent less time in a hospital. More recent studies have shown similar results with scenes from nature and plants in hospital rooms.

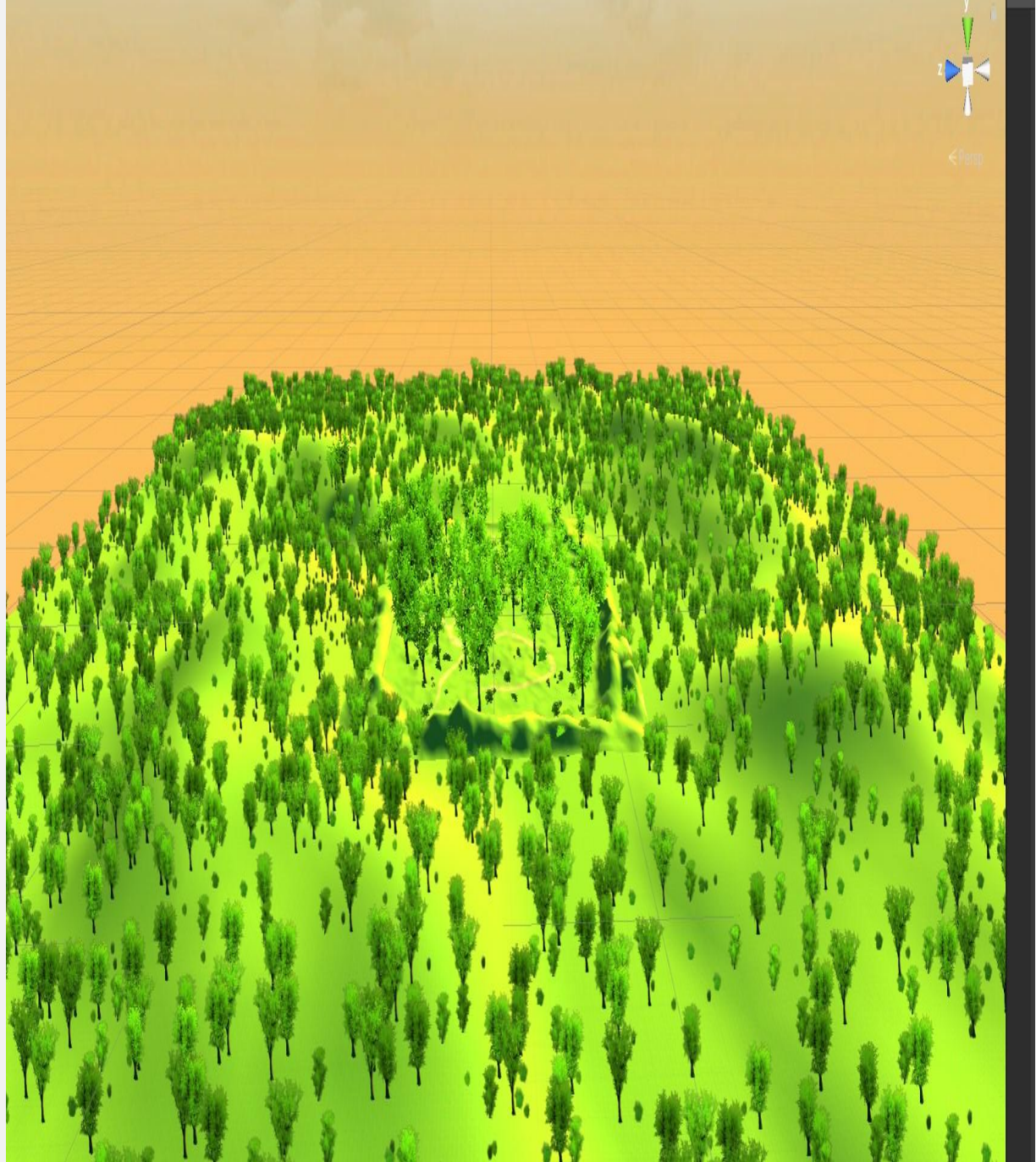


VR Model

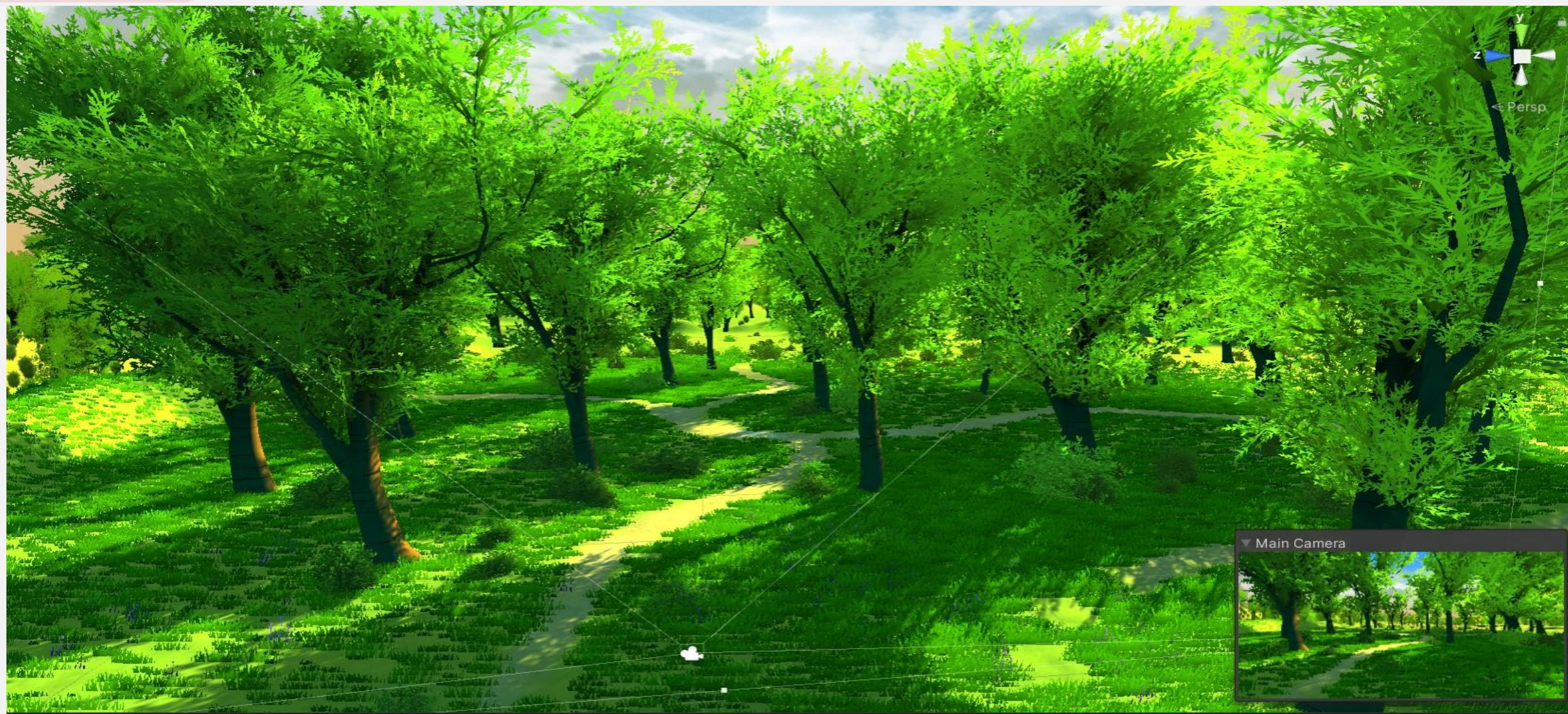








FINAL MODEL



Fear Of Heights

Acrophobia is a mental health condition in which the **individual experiences an intense fear of heights**. It's a type of anxiety disorder. The person with acrophobia experiences intense fear and anxiety when they think of tall heights or are positioned at a significant height. People with acrophobia experience intense and unreasonable fear when they're faced with heights, including everyday tasks such as climbing a flight of stairs or standing near a balcony.

Acrophobia can usually be treated with psychotherapy such as exposure therapy, **virtual reality exposure therapy** or cognitive behavioral therapy.

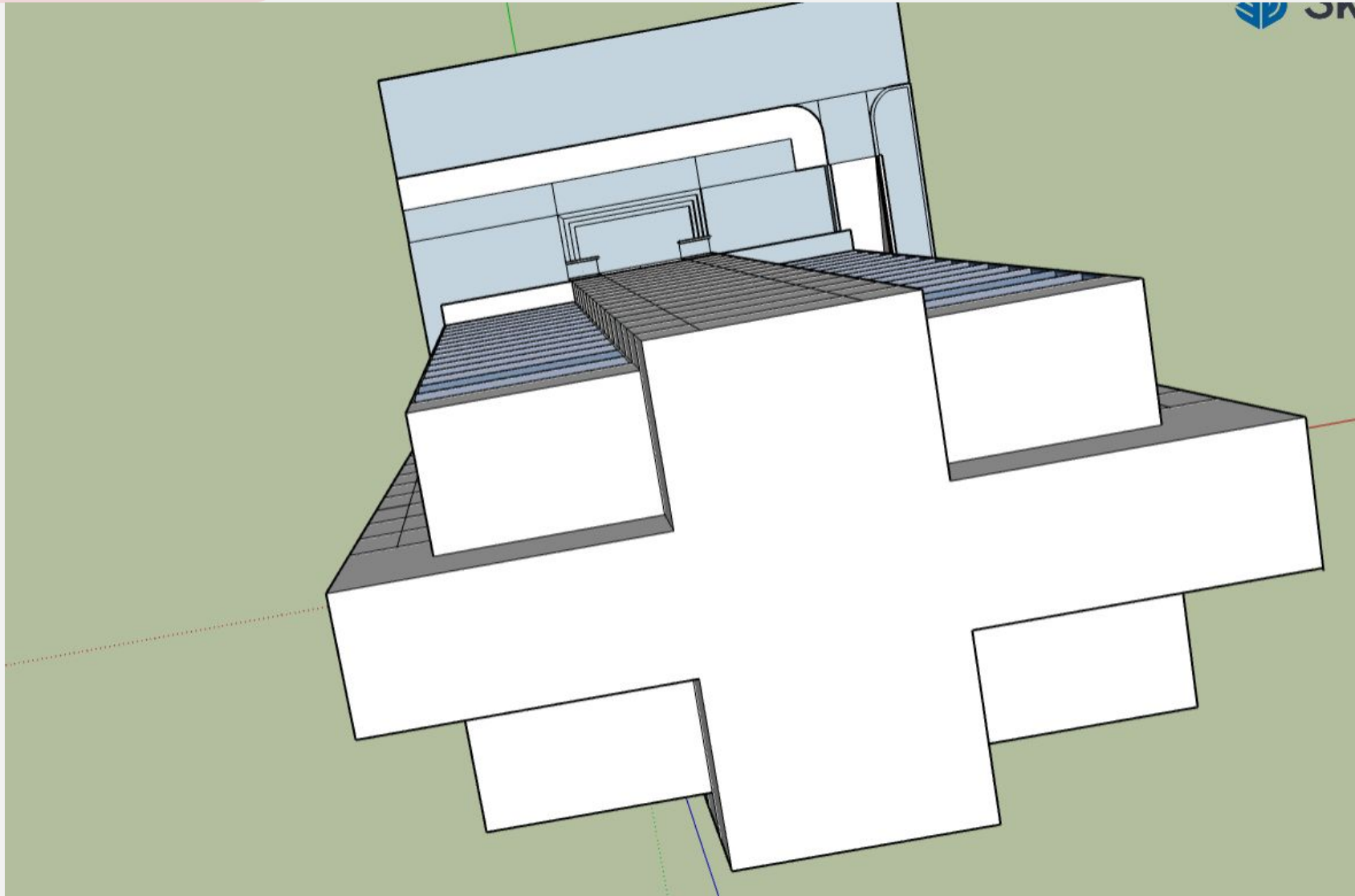
Fear of Height

Virtual reality exposure therapy (VRET): is a type of psychological treatment that uses technology to show the person **realistic — but fake situations** to help them cope with stressful and anxiety-inducing situations. If someone has acrophobia, they may **use a virtual reality (VR)** headset that will show simulations of situations that involve heights like we discussed in last class that we can make a building with user choice of floors and they can increase the levels as per their comfort. This way, they can be exposed to heights in a way that's completely safe and feels, real but isn't. Research has shown that virtual reality exposure therapy is effective in treating acrophobia.

VR Model 2



VR Model



04

CONCLUSION

04

Future additions

- Integrate with VR headsets such as Oculus Rift by Meta
 - Optimise model for higher FPS
 - Add customisable weather
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THANK YOU!!

